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**Pragmatic Faith:
An Epistemic Link between Religion, Science, Mathematics, and Philosophy**

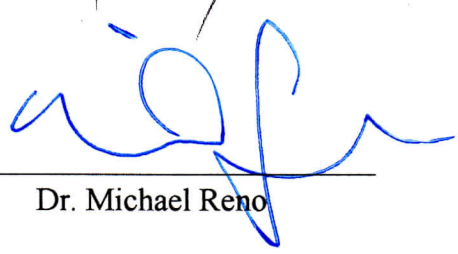
A Thesis Presented by
Ben Willis
in partial fulfillment of the requirements for
Honors in Philosophy

University of Mary Washington

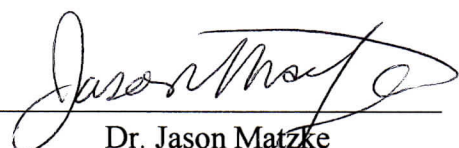
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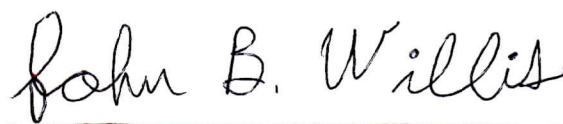
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Research in Philosophy: Honors Thesis

Pragmatic Faith:**An Epistemic Link between Religion, Science, Mathematics, and Philosophy****Introduction**

Reason and faith seem to mix like toothpaste and orange juice. It is popular to treat these two terms with mutual exclusivity, the former with scientific inquiry and the latter with religion, or at least theology of some kind. Evolutionary biologist Richard Dawkins, author of *The God Delusion*, said, “Faith is the great cop-out, the great excuse to evade the need to think and evaluate evidence. Faith is belief in spite of, even perhaps because of, the lack of evidence” (QuoteHD.com). Bill Nye, known popularly as “Bill Nye the Science Guy,” has certainly been shown to have qualms with religion when its proponents do not accurately portray science, especially where the public is involved. This was made apparent when he visited the Ark Encounter, a giant boat attraction at the Creation Museum that is meant to replicate Noah’s Ark of the Old Testament. Of its many faults for Nye, from the dinosaur rooms to the “not just misleading, but wrong,” science displays, Nye’s greatest concern seems to be that the attraction “encourages visitors to trust faith over science and thereby undercuts their ability to engage in critical thinking” (Ortiz).

The above examples demonstrate two internationally known scientists who are truly concerned about the harm that faith can cause. And scientists are not the only people to display such attitudes. Existentialist philosopher Friedrich Nietzsche famously held Christianity in particular contempt (de Botton, 236). Of Nietzsche’s attitudes towards the faith, Alain de Botton writes,

Christianity had, in Nietzsche's account, emerged from the minds of timid slaves in the Roman Empire who had lacked the stomach to climb to the tops of mountains, and so had built themselves a philosophy claiming that their bases were delightful. Christians had wished to enjoy the real ingredients of fulfillment (a position in the world, sex, intellectual mastery, creativity) but did not have the courage to endure the difficulties that these goods demanded (de Botton, 237).

Again we see someone who, like Dawkins and Nye, is against the cognitive products of faith for what it appears to lead to: stunted potential, a lack of critical analysis, and ultimately, faith seems to be where one goes to avoid testing one's beliefs.

The above concerns are well-founded. Be you a person of science or philosophy, mathematics or religion, the last thing that you want is to know that you are actively limiting your potential and, ultimately, halting what stands to be a far more fulfilled experience in your respective discipline. I propose that faith is able to not only coexist with these disciplines, but it can also play a surprisingly pivotal role in epistemology.

To say that faith is part of the very foundations of any and all epistemological endeavors may be too far a leap to make at this time. However, what started as research meant to give faith the benefit of the doubt ultimately demonstrated the importance of faith in fields such as scientific inquiry, mathematics and even philosophical skepticism. What captured my curiosity, was that this "faith," which I will later define and entitle "pragmatic faith," is the same kind of faith displayed in religion, such as by Abraham of the Book of Genesis, as I will demonstrate and discuss. The aim of this work, in full, is to demonstrate how pragmatic faith solves the perceived conflict between reason and faith, as well as to show how works in fields of both mathematics

and skepticism, bolstering my assertion that these disciplines rely on at least some same epistemic norms.

My analysis will proceed in eight following sections. First, I will analyze the conflict between science and religion, exploring the history of this conflict and possible explanations for it, based on the research of Gregory Dawes. Next I will define “reason” and “faith” as I mean them in this context, the latter description and its “pragmatic” applications being the primary focus of this paper. Third, I will demonstrate how the definition of faith that I propose is consistent with the faith that Christians who follow the model set by Abraham use; I then will demonstrate how faith can be maintained even when the dimensions of “faith” and “religious belief” have been somewhat separated. Fourth, I will discuss how faith is an essential part of scientific inquiry, especially as far as the principle of induction is concerned. Fifth, I will show how faith is instrumental in mathematics, particularly to findings which resulted from Kurt Gödel’s work in the 20th century. Sixth, I will articulate the role that faith plays in philosophical skepticism, and that while it is an unexpected element, it is quite important to those who wish to practice skepticism. Next, I respond to objections to my position that will inevitably arise—for example, why a faith model should be taken credibly and not merely as an effort to advocate religion. Lastly, I will have closing remarks to both camps; for those practicing faith in ignorance, and those afraid to use faith in academia.

It is important to point out, before we get too far, that the religion that will be discussed most often is going to be Christianity, with a particular focus on Christians who model themselves on Abraham’s example. This paper does not mean to say that Christianity as a religion deserves more inherent recognition than any other, but contextually, the main conflict between science and religion, as described by Dawes, focuses on Christianity. Wanting to stick

with this research and its examples more organically, I used examples from Bill Nye and Friedrich Nietzsche that both dealt specifically with Christianity, as well as the Abraham story of the Book of Genesis. This does not mean that other religions will not be relevant in this discussion; for instance, later sections feature references to Islamic theology where appropriate. Further, the applications of pragmatic faith are applicable regardless of the religion, which will be demonstrated later. But as the primary basis of religious argument, and as the example for faith-based religious systems, Christianity, particularly the model of Abraham's faith, will be my starting point.

Chapter I: A Look at the Science v. Religion Conflict

The conflict between science and religion is one with which many are familiar, and one that has an interesting history. What is known as the 'warfare' thesis, which asserts that an inevitable clash exists of science vs. religion, is attributed to the works of two writers of the nineteenth century, named John William Draper and Andrew Dickinson White. Yet even such attribution does not seem to sufficiently describe these men's stances on the topic at hand. As Gregory Dawes writes in his book, *Galileo and the Conflict between Religion and Science*, "both Draper and White believe there are forms of religion that can avoid conflict with science" (Dawes, 2-7).

Draper, for instance, held clear contempt for the Roman Catholic Church, which was due to its political grip at the time more than anything else. After all, this was in the 1870s, only four years after the Vatican Council had declared Pope Pius IX to be "infallible" both morally and in all faith-based concerns. This same Council also renewed the Catholic Church's power to not only prevent research in the sciences, but punish those who held to banned beliefs, which, of

course, the Church got to decide. This certainly was cause for alarm, but, as stated above, Draper certainly did not believe that science and religion were unable to coexist (Dawes, 3-7).

Andrew Dickinson White, co-founder of the prestigious Cornell University, had some firsthand experience trying to keep religious influences from dominating his institution. White wanted Cornell's administration to be free of any religious influence, Christian or otherwise, which seemed like the fair course of action. Unfortunately, this stance ended up having opposition; however, as Dawes puts it, "White does not hold that there exists an inevitable conflict between [religion and science]" (Dawes, 5).

So not even the gentlemen credited with devising this "warfare" thesis believed that it was as inevitable a conflict as they are thought to have claimed. This is important to note, as it is not enough to take a shallow interpretation of a concept. To understand this conflict properly, it is important to understand that these men, who are given credit for the conceptualizing the "thesis," did not find it to be something that could not be overcome. But surely this conflict is out there—Dawes posits that this fact is undeniable—but "What is the source?" is the question we should be asking. For Dawes, four possible areas exist as far as describing what is really to be held accountable for this conflict; the "most promising of these" appear to be 1) "bodies of doctrine," 2) "distinct communities," 3) "modes of thought," and 4) "epistemic norms." We will now analyze each and discern which one is the most likely causal candidate (Dawes, 12-17).

If bodies of doctrine are what are at stake here, there comes a problem of two terms that cover too much ground: "religion" and "science." Religion covers the span of countless belief systems that, other than possibly benevolence (and even then, maybe not), one would be hard-pressed to find their common element, let alone some common doctrine to describe them all. Science runs into the dilemma of, as many disciplines as it covers, holding many contradicting

theories, depending on the specific subject. The best that this first possible cause could offer us would be to show particular religious doctrines that may or may not come to blows with some scientific doctrine. Even then, the problem is clearly not unavoidable; for instance, the Catholic Church today holds the heliocentric model of our solar system as part of its doctrine, something for which Galileo was put on trial centuries ago. While examining the bodies of doctrine may be a way of investigating the issue, if painstakingly to do such doctrines point-by-point, we are interested not just in a case by case appraisal of these doctrines, but in what underlies the creation of any doctrine, in order to find our solution (Dawes, 2-13).

The second possible solution states that the two distinct communities are responsible for this conflict. On the one hand, this makes sense, as there do appear to be two camps and a conflict does seem to be taking place. On the other, this solution adds no substance to our situation; we know that there are two sides in this conflict, and that these sides are promoting this conflict. All this does is describe what a conflict is, not any contributing factors beyond (Dawes, 13-14).

Our third possible explanation comes from Robert Bellah's work, *Religion in Human Evolution*, as it applies the concepts of mythic and theoretic cultures, concepts originally devised by Merlin Donald. Mimetic cultures replicate occurrences found in nature, but do not communicate them through spoken or written language. Mythic cultures reflect events found in nature, either in practice or in learning, seeking "causal explanation, prediction, and control" of said occurrences for its members. An example of mythic cultural behavior would involve members of a society partaking in a dance to celebrate the flight of the eagle, an animal that, for whatever reason, had become venerated in said society. Theoretic cultures take the cause-determination element of mythic cultures to another level, by implementing argumentation and

analysis into the explanations provided for given events. Examples of theoretic behavior involve trial-and-error testing, as any scientific field of inquiry would involve. This is not to say, however, that the theoretic will automatically take over for all explanatory and functional faculties of the given culture once it is present. It has been demonstrated that even when theoretic elements are introduced to religious cultures, their other modes of thought remain prevalent sources of influence (Dawes, 15-16).

Dawes admits that this applicability shows potential. However, rather than focusing on the ways that cultures evolve to think and treating the conflict as a matter of evolution, Dawes encourages us to focus on how the camps of science and religion advocate that knowledge be pursued. Hence, it is actually to these differing advocacies—these perceived variances in epistemic norms—that we should turn our attention to find the source of this disagreement. After all, it is actually in the expectations in the way that one should acquire knowledge that the two sides dissent: “it is at this level—that of epistemology and epistemic norms—to be an ineradicable difference between religion and science” (Dawes, 16).

Dawes goes on to explain that “imparting knowledge” is a goal both camps share. They also tend to “overlap” when it comes to the “this-worldly” assertions made about aspects of our reality, rather than religion only dealing with other-worldly realms and supernatural occurrences (Dawes, 18-19). Despite these commonalities, as Dawes states in his conclusion:

Scripturally based religions not only claim a source of knowledge that is independent of human reason...they are bound by tradition, insist upon the certainty of their claims, and are resistant to criticism in ways that the sciences are not. It is this attitude that leads to conflict between religion and science (Dawes, 22).

Having summarized the views that have arisen from Dawes' work, we arrive at our solution of choice—this is that either camp's epistemic norms for the acquisition of knowledge are the source of said conflict. Now that we have been made fully aware of the problem, what is our solution? Dawes referred to these epistemic differences as “ineradicable,” but must they be? We will now turn our attention to, what I believe, is a tremendous step towards the solution of this dilemma: faith (Dawes, 16-22).

Chapter II: Pragmatic Faith as the “Missing Link”

The key point here is that, although “faith-based” disciplines and what we can consider to be “reason-based” disciplines have similar goals, they lack common epistemological foundations (Dawes, 16-22). Fortunately, I believe that I have determined faith—more specifically, pragmatic faith systems—to be a “missing link” in the foundational principles of the “faith-based” camp and in those of the “reason-based” camp. As will be shown, this observation stems partly from Frederick Robert Tennant's concept of what was later called “pragmatist faith,” which I have called “pragmatic faith” throughout this work. My analysis of its connections between religion, science, mathematics, and philosophy is what I bring to the table, having taken what I have found to be the foundational properties of Tennant's pragmatic faith and finding them to be applicable in the ways that I will later demonstrate.

I am proceeding here by defining this form of faith and then showing its validity as an epistemic norm for both camps. My main issue is not in trying to define what “reason” is, but it is crucial to have a working definition so that the ambiguities be kept to a minimum. When I refer to “reason,” or “reason-based” disciplines, be they mathematics, the sciences, or fields of philosophy, I refer to disciplines that pride themselves on testing their own validity—or, in

another sense, being the opposite of what Dawes asserts “scripturally based” religions to be—and build from the body of knowledge that flows from that process.

Defining “faith,” like “reason,” can be tricky, because it seems to be a word that everyone uses, but not many can define it without explicit examples of one or the other. Our definition of “reason” will suffice for its uses in this work, as our focus will be on faith. This chapter will explicitly look at faith systems, divide these systems into sensible categories, and then select which of these faith systems appears to be the one that connects the camps of our conflict, which we will refer to as “faith” and “reason” from here on.

John Bishop asserts that there are seven primary models of faith; these are respectively named “purely affective,” “special knowledge,” “belief,” “trust,” “doxastic venture,” “hope,” and “pragmatist” (which I refer to as “pragmatic”) (Swinburne qtd. in Bishop). The “purely affective” model of faith is not a deep well to draw from; as Bishop describes, this is characterized by “a feeling of existential confidence,” regardless of whether that is the result of God(s) or some other explanation. The other model without much to tell is the “special knowledge” model of faith. Basically this model asserts that God reveals truths to people to make up for our senses not being able to obtain those certain truths. Since these two models rely on the notion of God, neither one can be said to be an epistemic norm of the reason-based disciplines (Bishop).

Faith as “belief” refers to belief built off of evidence that serves as the next best thing to direct divine revelation; however, God is used as a fill-in-the-blanks mechanism where science fails in certain regards. For example, if a scientific theory comes up that explains things better than “God did it,” then God morphs from this otherworldly power into the God of the gaps, only appearing to explain what science has not yet determined. Even St. Thomas Aquinas, who tries

to make this faith model work, ends up falling back into “special knowledge:” “Aquinas’ model is of believing (assenting to) propositional truth-claims on the basis of testimony carrying divine authority.” Unfortunately, as this model also relies on an inherent notion of God, this model cannot be used for our purposes (Bishop).

The “trust” model bases its importance not necessarily on whether God is real, but on trusting God, with God’s existence being a given in this aspect. This model requires a more active approach from its participants, as those who practice this model (Protestant Christians, mainly) make a vow to follow God, to trust in God, for the hoped-for beneficial outcome for themselves. While this model does take more initiative than the others expressed thus far, as it requires its followers to rely on their own acts of trust rather than passive attitudes, this model has the capacity to slip into “blind faith.” After all, this model does not lean on evidence like the “belief” model does, and therefore the two can stand apart. But Bishop points out that “if adequate evidence of trustworthiness is *not* required for reasonable trust, how is reasonable trust different from ‘blind’ trust.” This obvious weakness—and the dependence on a notion of God—it is apparent that this model of faith does not connect faith to reason (Bishop).

Then comes the “doxastic venture” model, in which people place their trust in God analogously to the way one trusts a fellow person. Now immediately there are some concerns here, like that trusting a person is nothing like trusting God, whether you believe God to be present in this instance or not. Let us suppose, for sake of example, that God exists and we were to trust Him in this model; ignoring the magnitude of trust that comes from such belief, which does not prioritize evidence, God promises an “unchanging love,” thus allowing for “ultimately perfect safety.” Whether or not to believe in the promises of an immortal, perfectly loving being, without the burden on evidence, is entirely different than trusting a fellow person, whom you

know to be fallible. This analogy, along with the faith model's dependence on a notion of God, again, means that this is not the solution to our conflict (Bishop).

Hope comes very close to being an operable model that both reason-based and faith-based disciplines may share. It is based in acting in the hopes of having needs met, as opposed to being a passive attitude, and both classes of discipline share this element of, at times, acting without all of the details, such as in experimentation (Bishop). The problem with the hope model, however, is its dependence on God as part of its faith system. Therefore, again, we do not strike a chord for these two fields of discipline.

So far, there should be a clear pattern appearing as to our rejection of the above faith models as a shared epistemic norm: thus far, they all have an inherent dependence on a concept of God when it comes to their faith models, these faith models being critical to their epistemic functioning. The only faith model that does not automatically assume God's existence, or rely on a theological component to uphold its followers' epistemic functions, is the model known as the pragmatic model (Bishop). While these above systems describe faith systems that are intrinsically connected to religious belief, or at least beliefs that are a stone's throw from religion, the pragmatic faith splices the theological component (which Tennant calls "belief" unlike that model described above) from the epistemic function of "commitment" to "positively evaluated" truth claims (Tennant, 64; and Bishop).

Tennant's views appear at once to be akin to the experimental spirit of any scientist or academic. As Bishop says:

[Tennant] takes faith to be the adoption of a line of conduct not warranted by present facts, that involves experimenting with the possible or ideal, venturing into the unknown and taking the risk of disappointment and defeat. Faith is not an attempt to will something

into existence but rather treating hoped for and unseen things *as if* they were real and then acting accordingly (Tennant qtd. in Bishop; and Bishop).

The process of becoming learned on a topic, hypothesizing before conducting a trial in order to gain knowledge on it, and then “acting accordingly” is nothing foreign to those of us whose curriculums were bolstered by, and were always pushing, such aspects of the scientific method. The most important aspect to note on this faith system, when it comes to finding a shared epistemic norm between the faith-based and reason-based disciplines, is that this model does not discuss a “God or bust” mentality of epistemology, as opposed to the other models of faith.

Tennant himself pushes for this model to be synonymous with scientific practice. Bishop states:

‘Much of what underlies knowledge’—and he has scientific knowledge in mind—‘is the outcome of faith which ventures beyond the apprehension and treatment of data to supposition, imagination and creation of ideal objects, and justifies its audacity and irrationality (in accounting them to be also real) by practical actualization’ (Tennant qtd. in Bishop; and Bishop).

As we see here, Tennant himself asserts this pragmatic faith model to be that which underlies a great deal of knowledge, be it in reason-based or faith-based disciplines. I share this sentiment, and as I aim to demonstrate, I have found this pragmatic model to be present across fields of not just religion and science, but also mathematics and philosophy, even where faith would not be thought of as an obvious element (Bishop).

The next chapter will show an example of Christian faith under the microscope of pragmatic faith, in order to demonstrate how this separation of the elements of “belief” from “faith” can still allow for the coexistence of the two in one’s actions. Before we move on, it is important to explain that the use of the word “pragmatic” is not the same pragmatism that

Charles Sanders Peirce introduced in the 19th century. Peirce's assertions made specific claims about the nature of truth and the separation of science from scientific metaphysics, while William James, of the same school of pragmatism, applied its principles to religion and ethics, arriving at the conclusion that truth should only be measured by the advantage it provides to an individual. These are not the claims that the word "pragmatic" makes in the pragmatic faith system. Pragmatic faith, rather, should be taken to be similar to saying "practical" faith, as this is the extent of its meaning in this context (Stokes, 126-216).

Chapter III: Pragmatic Faith in the Binding of Isaac

The story of Abraham's faith is one celebrated by Christians for its clear demonstration of faith. While it is meant as a faith example, Soren Kierkegaard, for example, is unsure that we can truly discuss faith as a subject at all. In his work, *Fear and Trembling*, Kierkegaard seems to suggest that, while we may analyze Abraham with all his personal traits and experiences, faith is not only a term lacking precision, but it cannot be spoken about to any effect at all. I disagree with this assertion. As we have already established for ourselves a series of faith models, and narrowed our scope to the pragmatic model, our objective will be to determine whether we can say that pragmatic faith was demonstrated here. Only once we establish this religious connection can we then demonstrate pragmatic faith to be the shared epistemic norm for both faith-based and reason-based disciplines (Hannay, 7-13).

Abraham is tested by God to take his only son, Isaac, to Moriah, where Isaac will be sacrificed as a burnt offering (*Bible: New International Version*, Gen. 22.2). So Abraham leaves the next morning with Isaac, two servants, and the proper amount of firewood for the offering (22.3). After the three day journey, they arrive, and before Abraham and Isaac depart from the

group, Abraham says something unusual: “Stay here with the donkey while I and the boy go over there. *We* will worship and then *we* will come back to you” (22.4-5, italics added). Then as the two head up the mountain and Isaac asks where their offering is, Abraham, again, says something odd: “God himself will provide the lamb for the burnt offering, my son” (22.6-8).

So the two reach their destination, where Abraham binds his son, lays him on the altar, and picks up the knife to kill Isaac, when God’s angel appears to intervene (22.9-11). Then the angel says something that, luckily for Isaac, pulls a 180 on this situation: “Do not lay a hand on the boy. Do not do anything to him. Now I know that you fear God, because you have not withheld from me your son, your only son” (22.12). Then Abraham noticed a ram nearby, which had been provided for the sacrifice (22.13). The angel called down to Abraham again, and said:

I swear by myself, declares the Lord, that because you have done this and have not withheld your son, your only son, I will surely bless you...Your descendants will take possession of the cities of their enemies, and all nations on earth will use the name of your offspring in blessings, because you have obeyed me (22.15-18).

This story is a very famous one, and the verses and synopsis provided above will be necessary in our analysis of pragmatic faith’s role here. It is important to note as well that the Apostle Paul provides some further knowledge as to Abraham’s mental state during this whole ordeal: “Abraham reasoned that God could even raise the dead, and so in a manner of speaking he did receive Isaac back from death” (Heb. 11.19). One more point, also from the New Testament, comes from Jesus’ habit of asking people questions in order to teach them lessons. As author Josh Hunt describes this methodology, “It is not that God needs to hear...it is that you need to say. When you confess the truth...you are changed by that truth” (Hunt).

With all relevant material gathered, let us now discuss how both Abraham and God display pragmatic faith. As Hunt points out, Jesus, who is synonymous with “the Lord,” tests us with questions that it will benefit those tested to answer (Luke 2.11; and Hunt). Because they are synonymous, we can conclude that when God is testing Abraham, God does so because Abraham will benefit when he responds with some “truth” about himself—in this case, regarding his faith. To borrow from Tennant, it is important for God that Abraham reaches a “practical actualization” of his willingness to sacrifice his son, even though Abraham himself does not have all of the details about his sacrifice of Isaac, such as whether Isaac will survive (Tennant qtd. in Bishop).

Clearly God wanted Abraham to follow this pragmatic model of faith, but did Abraham do so on his side of things? Let us look again to the Apostle Paul’s words on Abraham’s internal state: “Abraham reasoned that God could even raise the dead, and so in a manner of speaking he did receive Isaac back from death” (Heb. 11.19). To borrow once more from Tennant’s ideas, Abraham adopted “a line of conduct not warranted by present facts,” and he experimented “with the possible or ideal, venturing into the unknown and taking the risk of disappointment and defeat” (Tennant qtd. in Bishop; and Bishop). Abraham, taking what he knew of God, hypothesized that God would be able to raise the dead. This confidence is evidenced in verses five through eight of the Book of Genesis (Gen. 22.5-8). In the former, Abraham stated to both of his servants that both he and his son would return, while in the latter, he reassures Isaac that God will provide the sacrifice.

Although this hypothesis did not manifest in a physical sense, it was what occurred symbolically. Isaac was committed by his father to be the sacrifice, so he was symbolically as good as dead (Gen. 22.2-3). On the third day, God raised Isaac out of this predicament, or, one

might say, out of death's clutches (22.12). This model, of a father committing his only son to die and on the third day that son being raised from death, should ring some bells to the resurrection of Jesus: "The Son of Man must be delivered over to the hands of sinners, be crucified and on the third day be raised again" (Luke 24.7). I include this here to show that while this story appears in the Old Testament and those who are more in touch with the New Testament may feel less inclined to pay it heed, there is a clear parallel to what may be the most important Biblical story from Abraham's own.

God and Jesus, being synonymous, taught in ways that would require demonstrations by those they tested, that these people be made better by such circumstances; in the case of Abraham and Isaac, it was necessary for God to have Abraham not just talk the talk, but walk the walk of faith; Abraham demonstrated faith in God, believing that God could raise people from the dead, and hence had no reason to fear, nor to let others in on the details of what was happening. So when God's angel told Abraham: "Now I know that you fear God, because you have not withheld from me your son, your only son," followed by the ways in which Abraham and his descendants will be blessed, it is clear that Abraham, in his hypothesis of God's behavior and his acting in accordance, was exactly in line with what God wanted him to have done (Gen. 22.12). Therefore, we have clearly demonstrated that pragmatic faith was practiced in this story.

It was important to show pragmatic faith's presence in this story for two reasons: the first reason is, as before stated, that this story is celebrated by Christians for its clear demonstration of faith (Hannay, 7). To demonstrate that pragmatic faith could have been used here and rewarded accordingly, in this example of faith, shows, therefore, that pragmatic faith could be the model of faith that God encourages Christians who follow Abraham to use, or that they are encouraged to use in general. The other reason is that pragmatic faith allows for the "faith" element, which is

more akin to scientific inquiry, to be separate from its “belief” element, the latter referring to religious belief systems (Tennant, 62-64). It could be argued that another faith model was used, but pragmatic faith is the only model whose epistemic elements do not *automatically* rely on the assumption of God’s existence. As before stated, this faith model asserts that the epistemic components do not totally rely on an assumption of God, which is unique to the other models provided.

Although God appears as a character in this story, God does not inform Abraham of all of the information that Abraham arrives at through pragmatic faith. Recall what Paul said of Abraham’s reasoning: “Abraham reasoned that God could even raise the dead, and so in a manner of speaking he did receive Isaac back from death” (Heb. 11.19). In other faith models, God informs—and has to inform—the faith-holder to give them more information. Here, Abraham, as part of his faith model, still held a belief in God, yet separated this belief from the faith component. This made God the object of a statement, “God could raise the dead,” and God did not inform Abraham of this. In this way, Abraham demonstrates that a religious faith system can survive a severance from God as a knowledge-giver, yet remain consistent.

Because this model of faith could be argued for as the model of Christian faith, and because this faith model allows for religious separation from its epistemic functions, it shows a clear example of a major religion that could very well share an epistemic norm with the reason-based disciplines; this example opens up the possibility for other religions to follow suit, at least as far as implementing similar methods of separation while maintaining religious belief. To fortify this latter point, the Mu‘tazilites, one of the major schools of Islam, actually believe that the application of reason holds the key to solving the most important questions of their religion, such as plurality from unity and the problem of evil (Aminrazavi). This may seem out of

leftfield, but it is yet another instance of a major religion, while maintaining its belief facet, pursuing certain questions by the means of reason.

Having established that religion can be practiced using a faith model that allows for epistemic functions not to rely on the theological aspects, the next chapter will show how pragmatic faith follows the same principles as those necessary for science.

Chapter IV: Pragmatic Faith and Induction

In order to demonstrate the relationship between pragmatic faith and, in this chapter, science, it is necessary to start from the ground and work our way up in regards to science's epistemic dependencies and functions.

To recap, epistemology is the study of the nature of knowledge (Stokes, 212). More specifically, the field “attempts to present a comprehensive, coherent, and well-argued for theory of knowledge, couched in the terms of the most basic concepts and distinctions possible” (Kim x). Among these distinctions, we find a pair that is essential to understanding science in an epistemic sense—this pair is that of “deductive” and “inductive” knowledge. When one applies deduction, “the move from premises to conclusions is such that if the premises are true, the conclusion *must* also be true.” An example of deduction would be the following: “If Appa is a bison, and all bison are animals, then Appa must be an animal.” As you can see, the premises, “Appa is a bison” and “all bison are animals,” logically lead to the conclusion that Appa, being part of the group, “bison,” must be an animal, because “bison” falls under the larger group, “animal” (Baggini and Fosl, 6-8). Induction, on the other hand, relies on observing a series of isolated incidents and drawing larger conclusions as a result. An example of this reasoning would be the following: “If Appa is a white bison, and every other bison I have ever seen has

been brown, then *most* bison are brown.” Due to the formatting of the conclusions following from their premises, both of these argumentative examples would be considered “valid.” This notion is dependent on the conclusions being derivative from the premises, and so validity does not rely on factual “truth,” but on accurate argumentative format. If we had a case wherein we had a true premise about Appa and the conclusion was found to be false, this would be the format in which we would have an invalid argument (Baggini and Fosl, 8-9).

Deduction will not be this chapter’s topic, as the principles of science, while they may apply deductive practices, predominately utilize induction. As should also have been obvious from the second example, it involved principles of experimentation, even if loosely applied; the sample size was taken, and a conclusion was drawn. Bertrand Russell backs this notion of science relying on induction as well, asserting that all we can really observe are patterns, habits of nature, without the certainty of their staying constant. He goes on to say:

The mere fact that something has happened a certain number of times causes...men to assume that it will happen again...our instincts certainly cause us to believe that the sun will rise tomorrow, but we may be in no better a position than the chicken which unexpectedly has its neck wrung (Russell, 42).

Using a pretty graphic metaphor, it is clear that Russell is quite familiar with the weakness of inductive reasoning, as much as we may rely on it. This weakness is that, while we can easily observe certain phenomena, such as the sunrise and sunset, bodies in air reacting to gravity, and colliding forces transfer their momentum, there is no guarantee that these laws will continue to apply to our reality (Russell, 40-44).

In order to solve this predicament, as far as what we can do to make our induction as profitable as possible, Russell insists that we work towards *probability* from accumulated cases

rather than dogmatic *provability* that science tries, in vain, to force down the throat of experiential description (Russell, 42-44). Russell elaborates on this position, as he writes:

The most we can hope is that the oftener things are found together, the more probable it becomes that they will be found together another time, and that, if they have been found together often enough, the probability will amount to almost certainty. It can never quite reach certainty, because we know in spite of frequent repetitions there sometimes is a failure at the last, as in the case of the chicken whose neck is wrung. Thus probability is all we ought to seek (Russell, 44).

Russell finds that the best that science can hope for, in its pursuit of knowledge via its inductive methods, is probability (Russell, 44). This, it should be noted, does nothing to belittle how far these “probabilities” have allowed society to come: we have sent both people and machines into outer space, we have established instant communication via handheld devices on an international scale, and human flight is over a century old (Romanowski). Nevertheless, it is important to analyze induction and its properties for what it is, theoretical limitations and all, so that a connection may be drawn to pragmatic faith and, ultimately, between faith-based and reason-based disciplines.

Before the connection is made clear, one more point must be made: as a result of the ultimate goal of induction being probability, Russell revises the principle of induction to more accurately portray this facet. He writes:

(a) The greater number of cases in which a thing of the sort A has been found associated with a thing of the sort B, the more probable it is (if no cases of failure of association are known) that A is always associated with B;

(b) Under the same circumstances, a sufficient number of cases of the association of A with B will make it nearly certain that A is always associated with B, and will make this general law approach certainty without limit (Russell, 45).

Thanks to Russell, we now have a working definition of the principle of induction that includes probability as a necessary component in order to determine degrees of certainty. This was necessary because now the parallels to pragmatic faith are undeniable. Recall, one of the main components of pragmatic faith is that it, as Bishop states,

Involves experimenting with the possible or ideal, venturing into the unknown and taking the risk of disappointment and defeat...[it] is not an attempt to will something into existence but rather treating hoped for and unseen things *as if* they were real and then acting accordingly (Tennant qtd. in Bishop).

The very same principles that insist on science risking “disappointment and defeat” to probability is the same principle on which pragmatic faith is built. The above quote even asserts that it is *not* “an attempt to will something into existence...” just as Russell asserts that the sciences should not be trying to will that “general rules which have exceptions...be replaced by general rules which have no exceptions.” It is clear that both Tennant and Russell agree that those practicing this mentality should act in accordance not with what one wishes were true, but what has been demonstrated as most *probable* (although it is not definitely true, it is what those practicing science hope to be true, since probability is all that they have) (Russell, 43-45).

To recap, we have learned in this chapter that the principle of induction, in an epistemic sense, runs parallel to pragmatic faith. Because the principle of induction has been shown to be fundamental to all scientific inquiry, this means that pragmatic faith’s sentiments and ideas are practiced by those practicing fundamental practices to scientific inquiry (Russell, 40-43).

Therefore, pragmatic faith is shown to be practiced by those practicing induction and, also, scientific inquiry. If we recall as well that pragmatic faith, it is quite plausible, was the very model of faith demonstrated by Abraham and encouraged by God, or at the very least encouraged by those who have carried the Binding of Isaac story down through the ages, our connection becomes clear: both religion and science share pragmatic faith as an epistemic norm.

While this solves the dispute initially posed by Dawes in Chapter I, this work is not satisfied to stop at merely science and religion. After all, I have asserted that other reason-based disciplines, such as mathematics and philosophy, also have facets that rely on pragmatic faith. If these following arguments hold true, then we will not only have found a solution to the warfare thesis as it currently stands, but to other disagreements that very well may be held in academia for similar purposes. Note, however, that the compatibility that I have already asserted between religion and science does not rely on the mathematics or philosophy chapters. Rather, those chapters are meant to build on the warfare thesis solution—not only do we seek to solve Dawes’ initially conceived conflict, but I seek to demonstrate other fields wherein pragmatic faith is used as an epistemic norm.

The next chapter will discuss how mathematics relies on this faith as one of its epistemic norms.

Chapter V: The Faith Found in Gödel

In Chapter IV we introduced the concepts of deduction and validity, the latter stating that if the premises are true, then the conclusion that follows must also be true. Knowledge gained via deduction is known as deductive knowledge, and because valid deductive knowledge is provable with its premises and unquestionable (as it *must* follow from said premises when properly

practiced), it is attractive to try and create a completely deductive system of knowledge.

Mathematicians attempted to do this very thing, and, although done in vain, it is an important development in the intellectual history of the subject (Nagel and Newman, 25). Our doing so is to follow along with not only the evolution of mathematics for its own sake, but to see how modern principles of mathematics follow principles of pragmatic faith, hence connecting the subject with both religion and the sciences, both of which we have already connected through the same faith.

A good place to start in the development of mathematics in this regard is with geometry. Geometry students are taught that it is a “deductive discipline,” meaning that it involves asserting any given proposition as the “conclusion of an explicit *logical proof*.” This practice is owed to Euclid and the Ancient Greeks, in a practice known as the “axiomatic method.” Via this method, a few assumptions, known as *axioms*, are accepted without proof as the foundations for the “superstructure” of the system; all other assertions are made via deductions that must follow as conclusions to their own respective logic proofs. The principles that result from these axiomatic derivations are known as *theorems*. The impact on scholars at the time was apparent, as were the connotations of a more complete deductive system. As Nagel and Newman say,

The relatively small number of axioms carry the whole weight of the inexhaustibly numerous propositions derivable from them...if in some way the truth of the axioms [could] be established...both the truth and the mutual consistency of all the theorems are automatically guaranteed (Nagel and Newman, 3).

In this terminology, creating a more perfect deductive system not only sounded like the answer to complete mathematical knowledge, but like it would be within reach (Nagel and Newman, 2-3).

Fast-forward to the 1800s, and mathematicians were in the “proper business” of deriving “theorems from postulated assumptions,” without trying to fact-check the axioms on which these theorems were based. Bertrand Russell had a kicker to describe the current rut of mathematicians: “pure mathematics is the subject in which we do not know if what we are talking about, or whether what we are saying is true” (Qtd. in Nagel and Newman, 12). Granted, as long as the derived theorems did not contradict, then there was no problem—but if no one was actually checking these axioms in some way, who was to say that a mathematician would not one day derive two opposing theorems to be the case at the same time, even when following proper derivative technique (Nagel and Newman, 10-14).

To solve this problem, elliptic plane geometry attempted to pick up the gauntlet. The problem, however, is that this geometric approach relies too heavily on Euclid’s own system, and who was to say that the axioms on which Euclid had based the original were a valid basis (Nagel and Newman, 16)?

As a separate approach, Alfred North Whitehead and Bertrand Russell attempted to create what few mathematicians dared: a formalized deductive system (Nagel and Newman, 37). More specifically, based on the assumption that mathematics was entirely grounded in formal logic, or was as a result of their *Principia Mathematica*, the scholars hoped that their work “would form the solid foundation for all of mathematics forevermore” (Hofstadter, xiii).

Alas, this was not to be. Kurt Gödel, who at the time was a logician only in his twenties, realized that, when number theory was applied to the formal system presented in the *Principia Mathematica* (since *Principia Mathematica* was meant to formalize all mathematics, it welcomed all challengers), the resulting theorems allowed for literally “any formula whatsoever” to be “deducible from the axioms.” This is a problem, because it would allow for such nonsense

as “[(V and $\sim V$)],” or “It is such that V exists at the same time and in the same manner as its opposite, Not V,” a direct violation of the Principle of Non-Contradiction (Ambuel). This violation makes this situation a major problem, and demonstrates why, in a practical sense, axioms of a system will never be able to allow for all possible theorems to be derived (Hofstadter, xii-xiv; and Nagel and Newman, 51).

This was Gödel’s version of “Liar’s Paradox,” as it was a real world example of the proposition, “This proposition is unprovable” (Lucas). As complex as his work was, one of Gödel’s major breakthroughs was in his “proof of the impossibility of formally demonstrating certain important propositions in number theory,” especially by showing that simply adding in axioms to the existing system in number theory would not work to complete it. In order to make an axiomatic system complete, let us assume it is first tautologous. In logic, a tautology “excludes no logical possibility,” such as in the following statement: “Either it will snow or it will not snow.” If our system is to be tautologous, then every axiom of the system will be a tautology. The following process, say Nagel and Newman, will allow us to prove the axioms as consistent:

- 1) Every axiom of the system is a tautology.
- 2) Tautologousness is [a property that is transmitted from the axioms to all theorems].
- 3) Every formula properly derived from the axioms (i.e., every theorem) is also a tautology.
- 4) Hence any formula that is not a tautology is not a theorem.
- 5) One formula has been found (e.g., ‘ p [or] q ’) that is not a tautology.
- 6) This formula is therefore not a theorem.

7) But, if the axioms were inconsistent [as in, allowing for even breaches of the Principle of Non-Contradiction], every formula would be a theorem.

8) Therefore the axioms are consistent (Nagel and Newman, 53-55).

Clearly, following from one premise to the next, the proof above, by not allowing itself to prove anything that is synonymous with a breach in the Principle of Non-Contradiction, keeps itself, and its axioms, consistent (Nagel and Newman, 9-56).

The conclusions the Gödel arrives at, regarding Number Theory, are quite interesting; in addition to those systems that may be construed like the one above in our tautology example, “there are an endless number of true arithmetical statements which cannot be formally deduced from any given set of axioms by a closed set of rules...” (Nagel and Newman, 109). Despite the immense amount of deduction that goes on in mathematics, “we [are] able to devise propositions which are not...provable, but are nonetheless, true.” These statements that are beyond deduction prove that, in this field overflowing with proofs, provability is not the same thing as truth, and in cases like these, wherein the propositions are “provable, but...true,” that fact is beyond refute (Lucas).

To see the connection with pragmatic faith found in the above discussion, just focus on these words from Tennant: “Faith...involves experimenting with the possible or ideal...Faith is not an attempt to will something into existence but rather treating...unseen things *as if* they were real and then acting accordingly.” Mathematics, in its deductive pursuits, has always gone after the determination of axiomatic implications, “experimenting” in the mind with principles of deduction, as we have seen above. As for these “unseen things,” this stands in for the backing of the truth in the instances where there is no proof—rather than trying to “will...into existence” the provability of the truth in these cases, pragmatic faith allows mathematicians in these cases to

treat these propositions as being just as valid, treating that backing “as if [it] were real and then acting accordingly” (Tennant qtd. in Bishop; and Bishop).

Before the final discussion and then the conclusory chapter, pragmatic faith has one more stop to make: philosophy. Philosophy is a broad discipline with many ways of thinking about the world (Papineau, 6). That may sound like the elementary schooler version of how to start an explanation, but before we get into the philosophy chapter, it is important to note why I have chosen to target just one very specific facet of philosophy, as opposed to the topic as a whole. For sake of conciseness, I have focused my attention to just one branch of epistemology wherein one would, in my opinion, least expect to come across faith themes and elements if they were to come across the topic of their own accord. By focusing in on a part of philosophy that one would commonly assume to have the least to do with faith, and showing it to rely on pragmatic faith elements, we can show that it is quite likely that we would find pragmatic faith in other elements of philosophy if we were to return at a later time.

Chapter VI: Even a Skeptic is Faithful

Since we have already introduced ourselves to the idea of discussing philosophy, let us jump right into which philosophical issue is going to be shown to have pragmatic faith as a key component. Both the principle of induction (in Chapter IV) and applied deduction in cases such as Gödel demonstrated (Chapter V) have been shown to involve the practice of pragmatic faith. Skepticism, being skeptical (to varying degrees) of what we may know, has yet to be shown as practicing pragmatic faith. Therefore, this has become our latest task to do so.

We can begin this section with a thought experiment, a hypothetical: a container holds a brain; electrical signals are administered to the brain, allowing the thinking thing to think that

they are experiencing all that life has to offer (Loewer, 42). This brain has all consciousness of what it thinks it believes about its “life,” as a professor or a student, a parent or a child, but the brain does not know that it is only a brain in a container being fed these signals on an arbitrary basis. Now, with this “hypothetical” brain still in mind, who is to say that you are not that brain (Papineau, 84)?

This illustrates an important, defining aspect of skepticism, worded here as a question: on what basis do we hold our beliefs about everything, or anything (Loewer, 42)? If we really are brains in containers, as the thought experiment suggests we may be, there is no way for us to become “meta” to this knowledge without help from that other reality (the one where we are just brains)—and since we have no use of appendages in that reality, we are at the mercy of whatever beings currently hold the real “us(s)” captive on the other side. Further, because we, in our current reality, are unable to entirely rule out this possibility, what do we really know at all, and can we know anything, if that is our true state (Papineau, 84)?

Here is our first application of pragmatic faith of the chapter, if in the face of skepticism rather than as part of it: anyone who holds the belief that they are not a brain in a container is acting in accordance with the hoped-for, but not entirely proven truth, that they are not a brain in a container. This displays pragmatic faith in the same style as it was applied in the end of Chapter V.

It is important to note that this kind of faith only really appear if someone was pushed to choose between believing that they were a brain in a jar or not. It is not the same thing *to not hold the belief that one is* a brain in a jar as it is for someone *to hold the belief that one is not* a brain in a jar. Think of it like lying—one person thinks you tell a lie, while the other believes you did not tell the truth. In the latter case, things are looser; maybe you got something wrong by

mistake, maybe someone deceived you or changed your information. In the former case, someone holds the specific belief that you are the cause of deception, with full-intention to deceive this individual. The same goes for the brain in the jar; one holds a specific belief, while the other is more open to possibilities. For our purposes, pragmatic faith is displayed by the person who *holds the belief* that they are not a brain in a jar.

As one solution that pragmatic faith provides to the dilemma (noted as being the most promising of a series of solutions), we look back to the probability and inductive principles of Bertrand Russell from Chapter IV (Papineau, 85). The argument states that while we have no 100% guarantee of our not being brains in containers, we have good reason for believing so, and we have the capacity to argue for our case rather than submit without a fight (Papineau, 85). Applying Ockham's razor, or the "Principle of Simplicity," holds that the less convoluted explanation tends to be the preferred one when deciding between two or more possible theories for an occurrence (Baggini and Fosl, 2009). When applied to our current thought experiment, we may picture it as follows: "What's more believable: that I am a person doing regular person things, or that creatures with at least or possibly more than my perceived intelligence have my brain in a containment unit somewhere and are sending signals to me of a fully lived life for some inexplicable reason? Well, the former sounds more reasonable, and far less convoluted, so I think, of the two, it is my best bet." Keep in mind that while this does not give an absolute guarantee of proof in this case; it does enhance our own perceived probability of being correct in this instance, by sorting between possibilities for the less complicated, and therefore more likely, possibility. This pattern of reasoning is the best we can do, as was reviewed in our discussion of probability being the true aim of induction. Recall, as well, what Bishop says is involved in pragmatic faith:

Experimenting with the possible or ideal, venturing into the unknown and taking the risk of disappointment and defeat. Faith is not an attempt to will something into existence but rather treating hoped for and unseen things *as if* they were real and then acting accordingly (Tennant qtd. in Bishop; and Bishop).

In this case, by discerning an explanation from the reasonable possibilities, the skeptic, in necessarily working their way out of this predicament, is “experimenting” with possibilities, and then, although in this case the chosen solution cannot be proven, this individual then treats this “hoped for” outcome as if it were a sure thing, and acts in accordance (Tennant qtd. in Bishop; and Bishop; and Papineau, 85).

Before going on, I would be remiss to have a skepticism chapter and not talk about David Hume in some sense. Adapting Hume’s views into another thought experiment for a moment, imagine that we know we are not brains in containers, but we are our regular selves (without getting into whatever the “self” is). Remembering from Chapter IV when induction, and sensory experience, showed us that even something as basic as the sun rising daily was not a sure-fire thing. Taking what that says about the world, and what, for Hume, is a “principle of connection” among ideas in general: how can we even know that our everyday beliefs about cause and effect are necessarily true (Hume, 14-15)?

Hume asks the real questions, as one can see, but this solution is similar to the one at which we arrived for skepticism in general: because instances of cause and effect have been observed to occur far more times than they have been perceived as having not occurred, as the principle of induction would state, this “will make this general law approach certainty without limit” (Russell, 45). As we surely recall, the principle of induction has already been shown to

practice pragmatic faith in at its root level, so here, in the re-application of the principle, we see pragmatic faith at work in our understanding of the principle of cause and effect.

It was a long road, but we made it to the end of the point: pragmatic faith is an epistemic norm present not only in religion and science, but in other reason-based disciplines, such as mathematics and philosophy. Just a discussion chapter and then closing remarks remain for this work. The discussion will consist of a few items that I think may arise as possible objections to either my position or the research itself. The objection section will not be stretched out, rather three objections will be touched on in this writing.

Chapter VII: Three Objections and Answers (The “O and A”)

The format of this section will follow a basic interview script format, that is, one paragraph will be the objection and the following paragraph will be the response to said objection. The voice of the “Objection” paragraphs will regard me in the second person, and the audience in the first person plural. The “Response” paragraphs will feature my own voice, speaking in first person regarding myself.

Objection 1 (O. 1): It seems unusual that you chose to pick faith of all things to focus on as your topic of research. Not that faith itself is a bad thing to be discussing, per se, but surely you were aware of inherent religious connotations with picking a word like “faith” to base your paper topic around? Even “pragmatic faith,” in what it allows for, is nonetheless a faith model. As the first objection, why should we take this as a genuine effort to bring together two sides of an epistemic debate rather than a ploy to push for whatever your personal views may be regarding “faith?”

Response 1 (R. 1): I had initially set out to look for the academically identified benefits of faith, in an epistemic sense, if they were to be found. It was at the time that I was reading over Bishop's article on faith that I came across the distinction between inherent religious elements to most models of faith, which, in itself, was surprising. Tennant's view of faith, having the epistemic dimension and the theological as separate entities that could still coexist, was a reflection of the view I held. Maybe not in an informed sense, but after reading over Tennant's description of this faith model, I suspected that other writers and thinkers would have employed it across their own work. I believe I made that evident.

O. 2: You described the story of Abraham and Isaac in great detail, making note of points to support your position that it was this model of faith, the "pragmatic" model, that Abraham implemented and that God wanted Abraham to implement. However, as you explained in the previous chapter, there are quite a few faith systems that have been identified. What makes you so sure that it was the pragmatic model, and no other model of faith, that was implemented?

R. 2: If you notice, I actually do not say in the chapter that I am 100% sure that this was the exclusive model of faith implemented, nor did I make comments synonymous with that position. The objective of the paper was to show how pragmatic faith could be a shared epistemic norm for both the faith-based and reason-based disciplines. Since I used the only faith model that insists that it can exist separate from the religious belief aspect, as I stated earlier, it was necessary to show how, in this story, one could make the argument and reasonably conclude that there is a high likelihood that Abraham practiced pragmatic faith. Certainly, facets of the other models could have come into play, but the objective was twofold: 1) argue that Abraham could have displayed pragmatic faith, and 2) link pragmatic faith to the other disciplines in later chapters. I did both successfully.

O. 3: In Chapter V, when you talked about the resulting impact of Gödel's findings, you mentioned that truth did not always mean provability, and we saw that, in those instances, you would be correct in that assessment. However, let us turn your own reasoning against you: the instances in which Gödel found that truth was inverse of provability was in isolated cases, involving applied number theory to formal logic systems, as you stated earlier. To make such a remark—"truth does not equal provability" or its equivalent—is pretty dogmatic from such a proportionally small sample size, would you not agree?

R. 3: I see what you mean, but it is not a dogmatic thing at all. Let us suppose that the statement were not so—this would mean that truth did equal provability, at least we assume. That only remains true as long as every time you find something true, you could prove it, in the applied context. This just happened to be the former assumption, that for something to be true, you had to be able to prove, or derive it, outright. Gödel showed that not to be the case, and because it was no longer the case, the statement, "truth does not equal provability," becomes true, because, even if in just isolated incidents, the opposite were shown false, our result, that truth does not equal provability, would be the demonstrable truth.

R.3 (cont.): Well, those were your three objections for today. Thank you for your time, and now join us for the closing remarks.

Conclusion

As has been demonstrated across the length of this work, pragmatic faith serves as a common epistemic norm not only for religion and science, hence rectifying the conflict found in the warfare thesis, but it is also found in mathematics, as well as philosophical skepticism, the last point helping to demonstrate that even "opposites attract," in a sense.

If nothing else is known about my own wishes for this research, it is that at least its sentiments have inspired something inside of those who have read it. I had a surprising amount of interest, especially from friends and family, in reading this work, and that interest seemed to be greatly based in the subject matter. I wanted to do this work because it seems that this apparent conflict is entirely solvable once both sides of it allow themselves some even footing with the other. It is my wish that this equal footing, born out of a mutually recognized—already adopted—epistemic norm, is a stepping stone towards a renewed spirit of collaboration for all branches of academia, as well as those who fancy themselves independent scholars of the subjects mentioned in this work and others.

Finally, I would like a word to both “camps” in this conflict, which I hope will be able to come to a ceasefire, maybe as a result of this paper. To those in the reason-based disciplines, do not fear faith when it is properly applied. Faith is something on which you all must rely just as readily as religious folk, as this work has demonstrated. But hopefully this work has also given a bridge to be able to communicate with those in the other “camp.” Recalling back to the Introduction, when Bill Nye criticized the Noah’s Ark exhibit, for instance, there was room there, to get in on the ground floor (figuratively), with a line, with the museum’s creator, like “We both are men of faith, so I know that the truth is important to you.” Not to put words in your mouths, but consider this as a reason to be considerate: al-Ghazzali, the Muslim theologian from centuries ago, observed that Jewish kids grew into Jewish adults, Muslims into Muslims, and Christians into Christians; if one of these parties was unquestionably correct, then all the kids would be growing into the same religion. He concluded that, like earlier in our discussion of cause and effect, religious upbringing was similar: a habit, probability. So while people without

these religious beliefs may view them as being held as one would hold a habit, the religious hold them as closely as the very notion of cause and effect (Aminrazavi).

Now to those of the faith-based camps, I urge you to practice reason. As we described it before, be willing to test your claims, and the claims of others, and be well learned on the methods of even those you attempt to debate. Al-Ghazzali is a great example, yet again, as one who learned the weak points of the philosophers in order to pick them apart for the perceived betterment of his own theology (Aminrazavi). Great thinkers have emerged as well in the Christian tradition, like St. Thomas Aquinas, who used logic principles to argue for the existence of God, and St. Anselm, whose original Ontological Argument attempted to prove God as an inherent factual existence, and to deny him would be as fallacious as denying any other deductive proof (Wolff, 105). A great deal can be learned from these and many others, who, by taking principles of reason into their own hands, maintained and grew in their faith.

There is no guarantee that this conflict of minds will end. Despite apparent similarities in the past, the epistemic differences have pervaded. Even now, when a bridge has been formed for the faith-based and reason-based disciplines, it is uncertain whether their leaders, much less their participants, will have the wisdom necessary to cross it. But I have faith that a solution will come—based on my findings, this work is such a solution.

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